

WHAT IS CLAIMED IS:

1. A method of data transmission, said method comprising:

transmitting each among a first set of signals on a corresponding one of a first set of a plurality of parallel conductive paths, and

- 5 transmitting each among a second set of signals on a corresponding one of a second set of the plurality of parallel conductive paths,

wherein adjacent conductive paths of the first set are separated by at least one conductive path of the second set, and

- 10 wherein a first of two ends of each one among the plurality of conductive paths is closer to the first end of an adjacent conductive path than to the second end of the adjacent conductive path, and

- wherein said transmitting each among a first set of signals includes applying the signal to the first end of the corresponding conductive path, and wherein said transmitting each among a second set of signals includes
15 applying the signal to the second end of the corresponding conductive path.

2. The method of data transmission according to claim 1, wherein each among the first and second sets of signals includes a series of state transitions, and

- 20 wherein a propagation delay of a state transition across one of the first set of the plurality of parallel conductive paths is less than a time interval between consecutive state transitions of one of the first set of signals.

3. The method of data transmission according to claim 1, wherein said transmitting each among a first set of signals and said transmitting each among a second set of signals occur on the same semiconductor substrate.

4. The method of data transmission according to claim 3, wherein a length of each of the parallel conductive paths is at least five centimeters.

5. The method of data transmission according to claim 1, wherein a distance between a pair of the parallel conductive paths is less than one hundred microns.

6. The method of data transmission according to claim 1, wherein a width of each of the parallel conductive paths is less than one hundred microns.

7. A system for data transmission, said system comprising:
a plurality of conductive paths;

a first transmitter configured and arranged to receive a plurality of first input signals, each having a series of state transitions, and to transmit a corresponding plurality of first output signals, each having a series of state transitions corresponding to the series of state transitions of the corresponding first input signal; and

a second transmitter configured and arranged to receive a plurality of second input signals, each having a series of state transitions, and to transmit a corresponding plurality of second output signals, each having a series of state

transitions corresponding to the series of state transitions of the corresponding second input signal,

wherein a first of two ends of each one among the plurality of conductive paths is closer to the first end of an adjacent conductive path than to the second end of the adjacent conductive path, and

wherein the first transmitter is further configured and arranged to apply each first output signal to the first end of the corresponding conductive path, and

wherein the second transmitter is further configured and arranged to apply each second output signal to the second end of the corresponding conductive path, and

wherein adjacent conductive paths carrying first output signals are separated by at least one conductive path carrying a second output signal.

8. The system for data transmission according to claim 7, wherein each state transition of an output signal corresponds to a different one among the state transitions of the corresponding input signal.

9. The system for data transmission according to claim 7, wherein the conductive paths are parallel to one another.

10. The system for data transmission according to claim 7, wherein the first and second transmitters are fabricated on the same semiconductor substrate.

11. The system for data transmission according to claim 10,
wherein a length of each of the conductive paths is at least five centimeters.

12. The system for data transmission according to claim 7, wherein
5 a distance between a pair of the conductive paths is less than one hundred
microns.

10 13. The system for data transmission according to claim 7, wherein
a width of each of the conductive paths is less than one hundred microns.

14. The system for data transmission according to claim 7, wherein
each of the first and second transmitters is further configured and arranged to
receive an operating voltage from two power rails, and

15 wherein the two power rails are parallel to and on opposite sides of the
plurality of conductive paths.

15 15. The system for data transmission according to claim 7, wherein
each one among the plurality of conductive paths includes a corresponding one
of a plurality of parallel transmission lines, and

20 wherein the state transitions of each among the plurality of first output
signals are synchronous to a clock signal, and

wherein the first transmitter is further configured and arranged to
couple the clock signal to one of the plurality of parallel transmission lines.

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16. The system for data transmission according to claim 7, wherein each among the plurality of conductive paths includes a corresponding one of a plurality of buffers.

17. The system for data transmission according to claim 7, wherein the state transitions of each among the plurality of first input signals and of each among the plurality of second input signals are synchronized to a data clock signal, and

wherein the state transitions of each among the plurality of first output signals are synchronous to one among the rising and falling edges of a clock signal based on the data clock signal, and

wherein the state transitions of each among the plurality of second output signals are synchronous to the other among the rising and falling edges of the clock signal based on the data clock signal.

18. A semiconductor substrate having an integrated circuit fabricated thereon, said integrated circuit comprising:

a plurality of conductive paths;

a first transmitter configured and arranged to transmit a plurality of first output signals; and

a second transmitter configured and arranged to transmit a plurality of second output signals,

wherein a first of two ends of each one among the plurality of conductive paths is closer to the first end of an adjacent conductive path than to the second end of the adjacent conductive path, and

wherein the first transmitter is further configured and arranged to apply each first output signal to the first end of the corresponding conductive path, and

5 wherein the second transmitter is further configured and arranged to apply each second output signal to the second end of the corresponding conductive path, and

wherein adjacent conductive paths carrying first output signals are separated by at least one conductive path carrying a second output signal.

10 19. The semiconductor substrate according to claim 18, wherein a length of each of the conductive paths is at least five centimeters.

20. The semiconductor substrate according to claim 18, wherein each among the plurality of conductive paths includes a corresponding one of a
15 plurality of buffers.

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